

Math (Science)	Group-I	Paper-I
Time: 20 Minutes	(Objective Type)	Max Marks: 15

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- The value of $\log \left(\frac{p}{q} \right)$ is:

(a) $\log p - \log q$ ✓ (b) $\frac{\log p}{\log q}$
 (c) $\log p + \log q$ (d) $\log q - \log p$

2- Mid-point of the points $(2, -2)$ and $(-2, 2)$ is:

(a) $(2, 2)$ (b) $(-2, -2)$
 (c) $(0, 0)$ ✓ (d) $(1, 1)$

3- L.C.M. of $a^2 + b^2$ and $a^4 - b^4$ is:

(a) $a^2 + b^2$ (b) $a^2 - b^2$
 (c) $a^4 - b^4$ ✓ (d) $a - b$

4- The diagonals of a parallelogram _____ each other.

(a) Bisect ✓ (b) Trisect
 (c) Bisect at right angle
 (d) None of these

5- The order of matrix $\begin{bmatrix} 2 & 1 \end{bmatrix}$ is _____.

(a) 2 - by - 1 (b) 1 - by - 2 ✓
 (c) 1 - by - 1 (d) 2 - by - 2

6- $(3 + \sqrt{2})(3 - \sqrt{2})$ is equal to:

(a) 7 ✓ (b) -7
 (c) -1 (d) 1

7- If $(x, 0) = (0, y)$, then (x, y) is:
(a) $(0, 1)$ (b) $(1, 0)$
(c) $(0, 0)$ ✓ (d) $(1, 1)$

8- Imaginary part of $-i(3i + 2)$ is _____.
(a) -2 ✓ (b) 2
(c) 3 (d) -3

9- ____ congruent triangles can be made by joining the mid-points of the sides of a triangle.
(a) Three (b) Four ✓
(c) Five (d) Two

10- Factors of $3x^2 - x - 2$ are _____.
(a) $(x + 1)(3x - 2)$ (b) $(x + 1)(3x + 2)$
(c) $(x - 1)(3x - 2)$ (d) $(x - 1)(3x + 2)$ ✓

11- In $\sqrt[3]{35}$, the radicand is:
(a) 3 (b) $\frac{1}{3}$
(c) 35 ✓ (d) $\sqrt{35}$

12- If $a^x = n$, then:
(a) $a = \log_x n$ (b) $x = \log_n a$
(c) $x = \log_a n$ ✓ (d) $a = \log_n x$

13- The square root of $a^2 - 2a + 1$ is:
(a) $\pm (a + 1)$ (b) $\pm (a - 1)$ ✓
(c) $(a - 1)$ (d) $(a + 1)$

14- Adj of $\begin{bmatrix} 1 & 2 \\ 0 & -1 \end{bmatrix}$ is:
(a) $\begin{bmatrix} 1 & -2 \\ 0 & -1 \end{bmatrix}$ (b) $\begin{bmatrix} -1 & 2 \\ 0 & -1 \end{bmatrix}$
(c) $\begin{bmatrix} -1 & 0 \\ 2 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} -1 & -2 \\ 0 & 1 \end{bmatrix}$ ✓

15- $x = 0$ is a solution of the inequality _____.
(a) $x > 0$ (b) $3x + 5 < 0$
(c) $x + 2 < 0$ (d) $x - 2 < 0$ ✓